

**ABSTRACT**

Ionizing radiation imaging apparatus and method including a scintillator element which emits optical radiation as a result of absorption of ionizing radiation, and a photoconductive multilayer element optically coupled to the scintillator element, the photoconductive multilayer element including a charge generation layer which is sensitive to the optical radiation emitted by the scintillator element, and a charge transport layer disposed over the charge generation layer, the charge transport layer being operative to retain a charge pattern corresponding to the ionizing radiation.